BILLING CODE 3510-22-P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648-XD741

Taking of Marine Mammals Incidental to Specified Activities; Anacortes Tie-up Slips Dolphin and Wingwall Replacement

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice; proposed incidental harassment authorization; request for comments and information.

SUMMARY: NMFS has received a request from the Washington State Department of Transportation (WSDOT) for an authorization to take small numbers of 11 species of marine mammals, by Level B harassment, incidental to proposed construction activities for a tie-up slips dolphin and wingwall replacement project in Anacortes, Washington State. Pursuant to the Marine Mammal Protection Act (MMPA), NMFS is requesting comments on its proposal to issue an authorization to WDOT to incidentally take, by harassment, small numbers of marine mammals for a period of 1 year.

DATES: Comments and information must be received no later than [*INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER*].

ADDRESSES: Comments on the application should be addressed to Jolie Harrison, Chief, Permits and Conservation Division, Office of Protected Resources, National Marine Fisheries Service, 1315 East-West Highway, Silver Spring, MD 20910. The

mailbox address for providing email comments is *itp.guan@noaa.gov*. NMFS is not responsible for e-mail comments sent to addresses other than the one provided here. Comments sent via e-mail, including all attachments, must not exceed a 25-megabyte file size.

Instructions: All comments received are a part of the public record and will generally be posted to *http://www.nmfs.noaa.gov/pr/permits/incidental.htm* without change. All Personal Identifying Information (for example, name, address, etc.) voluntarily submitted by the commenter may be publicly accessible. Do not submit Confidential Business Information or otherwise sensitive or protected information.

A copy of the application may be obtained by writing to the address specified above or visiting the internet at: *http://www.nmfs.noaa.gov/pr/permits/incidental.htm*. Documents cited in this notice may also be viewed, by appointment, during regular business hours, at the aforementioned address.

FOR FURTHER INFORMATION CONTACT: Shane Guan, Office of Protected Resources, NMFS, (301) 427-8401.

SUPPLEMENTARY INFORMATION:

Background

Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 et seq.) direct the Secretary of Commerce to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made and either regulations are issued or, if the taking is limited to harassment, a notice of a proposed authorization is provided to the public for review.

An authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s), will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses (where relevant), and if the permissible methods of taking and requirements pertaining to the mitigation, monitoring and reporting of such takings are set forth. NMFS has defined "negligible impact" in 50 CFR 216.103 as "...an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival."

Section 101(a)(5)(D) of the MMPA established an expedited process by which citizens of the U.S. can apply for a one-year authorization to incidentally take small numbers of marine mammals by harassment, provided that there is no potential for serious injury or mortality to result from the activity. Section 101(a)(5)(D) establishes a 45-day time limit for NMFS review of an application followed by a 30-day public notice and comment period on any proposed authorizations for the incidental harassment of marine mammals. Within 45 days of the close of the comment period, NMFS must either issue or deny the authorization.

Summary of Request

On April 1, 2014, WSDOT submitted a request to NOAA requesting an IHA for the possible harassment of small numbers of 11 marine mammal species incidental to construction associated with the Anacortes Tie-up Slips Dolphin and Wingwall Replacement in the city of Anacortes, on Fidalgo Island, adjacent to Guemes Channel, Skagit County, Washington, between September 1, 2015, and February 15, 2016. NMFS

determined that the IHA application was complete on July 1, 2014. NMFS is proposing to authorize the Level B harassment of the following marine mammal species/stocks: harbor seal, California sea lion, Steller sea lion (eastern Distinct Population Segment, or DPS), northern elephant seal, killer whale (transient and Southern Resident stocks), gray whale, humpback whale, minke whale, harbor porpoise, Dall's porpoise, and Pacific white-sided dolphin.

Description of the Specified Activity

Overview

The purpose of this project is to replace the aging timber wingwalls and dolphins in Tie-up Slips 3 and 4 (Figures 1-3, 1-4 and 1-5 in WSDOT's IHA application) with standard steel and concrete designs. The aging timber facilities are beginning to deteriorate from combined docking operations, salt water infusion and wood rot organisms. Replacement of these facilities will allow the ferries to safely moor at the terminal and provide the necessary protection of the terminal from the docking of ferries. The timber piles that will be permanently removed are listed Table 1.

WSDOT plans to re-use eight existing 36-inch steel piles (remove and relocate) and install 52 new permanent steel piles (24-, 30-, and 36-inch) with a vibratory hammer. In addition, WSDOT may install one temporary dolphin consisting of one 24-inch steel pile and/or the contractor may elect to temporarily install four 24-inch steel piles at the location of each dolphin and wingwall to be used as a pile driving template for the permanent piles (Table 2). These four temporary piles will be removed once the corresponding landing aid is completed, then installed at the location of the next structure,

and completely removed at the end of the project. Between one and five temporary piles will be installed at any given time during the project.

A vibratory hammer will be used for pile removal and driving. No impact pile driving or proofing is necessary. Existing timber piles may also be removed by direct pull. Pile driving and removal will be conducted from a barge containing a derrick, crane, and other necessary equipment. The barge will be anchored and/or spudded. No barge dynamic positioning system (DPS) will be used on this project.

Table 1. Timber piles to be removed

Structure	Number of Piles Removed
Slip 3 Wingwalls	46
Slip 3 Left Dolphin	35
Slip 3 Right Inner	35
Slip 3 Right Outer	51
Slip 4 Wing Dolphins	70
Slip 4 Right Outer	35
Total	**272**

Table 2. Project Piles to be Installed

Structure Name	Location	Depth (ft)	Existing Steel Piles	Temporary Steel Piles*	New Permanent Steel Piles			Total
			36”	24”	36”	30”	24”	
Dolphin 1	Slip 3 left intermediate	-28	-	4	1	4	-	**9**
Dolphin 2	Slip 3 right inner (double sided)	-28	-	4	2	4	-	**10**
Dolphin 3	Slip 3 right outer (double sided)	-30	-	4	10	6	-	**20**
Dolphin 4	Slip 4 right outer	-27	-	4	3	6	-	**13**
Wingwall 1	Slip 3	-28	8	-	-	-	4	**12**
Wingwall 2	Slip 4	-25	-	-	4	-	8	**16**
Temporary Dolphin	Protective Dolphin	-34	-	1	-	-	-	**1**

Total		**8**	**5[1]**	**20**	**20**	**12**	**81**

[1] No more than five temporary piles will be in place at any one time.

Dates and Duration

In-water construction is planned to take place between September 2015 and February 2016. The on-site work will last approximately 135 days with pile removal and driving taking place over approximately 36 days. All work will occur in water depths between -25 and -34 feet mean low low water (MLLW).

Duration estimates of each of the pile driving elements follow:

- The daily construction window for pile removal or driving will begin no sooner than 30 minutes after sunrise to allow for initial marine mammal monitoring, and will end 30 minutes before sunset to allow for post-construction marine mammal monitoring.
- Vibratory pile removal of the existing timber piles will take approximately 10 to 15 minutes per pile. Vibratory removal will take less time than driving, because piles are vibrated to loosen them from the soil, and then pulled out with the vibratory hammer turned off. Assuming the worst case of 15 minutes per pile (with no direct pull or clamshell removal), removal of 272 piles at the Anacortes terminal will take 68 hours over nine days of pile removal.
- Vibratory pile driving of the steel piles will take approximately 20 minutes per pile, with three to five piles installed per day. Assuming 20 minutes per pile, and three piles per day, driving of 81 piles at the Anacortes terminal will take 27 hours over 27 days.

The total worst-case time for pile removal is nine days, and 27 days for pile installation. The actual number of pile-removal/driving days is expected to be less.

Specified Geographic Region

The proposed activities will occur at the Anacortes ferry terminal located in Anacortes, Washington (see Figures 1-1 and 1-2 of WSDOT's IHA application). The terminal is adjacent to Guemes Channel, tributary to the Georgia Basin.

The Anacortes ferry terminal, serving State Route 20, is located in the city of Anacortes, on Fidalgo Island, adjacent to Guemes Channel, Skagit County, Washington. Guemes Channel is tributary to the Georgia Basin. The terminal is located in Section 22, Township 35 North, Range 1 East. This is the primary terminal for all WSDOT ferry departures to the San Juan Islands and Vancouver Island. Land use in the area is a mix of residential, business, and local parks.

Detailed Description of Anacortes Tie-up Slips Dolphin and Wingwall Replacement

The following construction activities are anticipated:

- Remove three 35-pile dolphins, one 51-pile dolphin, 70 piles associated with wing-dolphins, and 46 piles associated with wingwalls. These piles will be removed with a vibratory hammer or by direct pull and clamshell removal.
- If necessary, vibratory pile-drive one to five 24-inch steel piles for use as a temporary template at each structure location.
- Vibratory pile-drive up to six 30-inch steel piles and up to ten 36-inch steel piles for each new dolphin.
- Place precast concrete diaphragm on new dolphins.
- Attach fender panel to new fender pile.

- Remove temporary piles.
- At Slip 3 wingwalls, vibratory pile-drive up to four 24-inch steel piles (two per wingwall).
- At Slip 4 wingwalls, vibratory pile-drive and up to four 24-inch steel piles (two per wingwall), and eight 36-inch steel piles (four per wingwall).
- Attach rubber fenders between plumb piles.

Approximately 441 tons of creosote-treated timbers will be removed from the marine environment. The total mudline footprint of the existing dolphins is 258 square feet (ft2). The total mudline footprint of the new dolphins will be 263 ft2, an increase of five square feet. However, the footprint of the new steel dolphins will be more open, allowing fish movement between the piles. The new dolphins and wingwalls will have 52 piles, compared to the existing structures, which have 272 tightly clustered piles with no space between them. Detailed descriptions of these activities are provided below.

(1) Vibratory Hammer Pile Removal

Vibratory hammer extraction is a common method for removing timber piling. A vibratory hammer is a large mechanical device mostly constructed of steel (weighing 5 to 16 tons) that is suspended from a crane by a cable. It is attached to a derrick and positioned on the top of a pile. The pile is then unseated from the sediments by engaging the hammer, creating a vibration that loosens the sediments binding the pile, and then slowly lifting up on the hammer with the aid of the crane.

Once unseated, the crane will continue to raise the hammer and pull the pile from the sediment. When the pile is released from the sediment, the vibratory hammer is disengaged and the pile is pulled from the water and placed on a barge for transfer upland.

Vibratory removal will take approximately 10 to 15 minutes per pile, depending on sediment conditions.

The piling will be loaded onto the barge or into a container and disposed of offsite in accordance with State of Washington Administrative Code (WAC) 173-304 Minimum Functional Standards for Solid Waste Handling and mitigation.

(2) Direct Pull and Clamshell Pile Removal

Older timber pilings are particularly prone to breaking at the mudline because of damage from marine borers and vessel impacts, and must be removed because they can interfere with the installation of new pilings. In some cases, removal with a vibratory hammer is not possible if the pile is too fragile to withstand the hammer force.

Broken or damaged piles may be removed by wrapping the piles with a cable and pulling them directly from the sediment with a crane. If the piles break below the waterline, the pile stubs may be removed with a clamshell bucket, a hinged steel apparatus that operates like a set of steel jaws. The bucket will be lowered from a crane and the jaws will grasp the pile stub as the crane pulls up. The broken piling and stubs will be loaded onto the barge for off-site disposal. Clamshell removal will be used only if necessary. Direct pull and clamshell removal do not produce noise that could impact marine mammals.

(3) Vibratory Hammer Pile Installation

Vibratory hammers are commonly used in steel pile installation where sediments allow and may involve the same vibratory hammer used in pile extraction. The pile is placed into position using a choker and crane, and then vibrated between 1,200 and 2,400 vibrations per minute. The vibrations liquefy the sediment surrounding the pile allowing

it to penetrate to the required seating depth. The type of vibratory hammer that will be used for the project will likely be an APE 400 King Kong (or equivalent) with a drive force of 361 tons.

Description of Marine Mammals in the Area of the Specified Activity

The marine mammal species under NMFS jurisdiction most likely to occur in the proposed construction area include Pacific harbor seal (Phoca vitulina richardsi), northern elephant seal (Mirounga angustirostris), California sea lion (Zalophus californianus), Steller sea lion (Eumetopias jubatus), killer whale (Orcinus orca) (transient and Southern Resident stocks), gray whale (Eschrichtius robustus), humpback whale (Megaptera novaeangliae), minke whale (Balaenoptera acutorostrata), harbor porpoise (Phocoena phocoena), Dall's porpoise (P. dali), and Pacific white-sided dolphin (Lagenorhynchus obliquidens).

Table Error! No text of specified style in document.**. Marine Mammal Species Potentially Present in Region of Activity**

Species	ESA Status	MMPA Status	Occurrence
Harbor Seal	Not listed	Non-depleted	Frequent
California Sea Lion	Not listed	Non-depleted	Frequent
Northern Elephant Seal	Not listed	Non-depleted	Occasional
Steller Sea Lion (eastern DPS)	Not listed	Under review	Rare
Harbor Porpoise	Not listed	Non-depleted	Frequent
Dall's Porpoise	Not listed	Non-depleted	Occasional
Pacific White-sided dolphin	Not listed	Non-depleted	Occasional
Killer Whale	Endangered (Southern Resident)	Depleted	Occasional
Gray Whale	Delisted	Unclassified	Occasional
Humpback Whale	Endangered	Depleted	Rare
Minke Whale	Not listed	Non-depleted	Rare

General information on the marine mammal species found in Washington coastal waters can be found in Caretta *et al.* (2014), which is available at the following URL: *http://www.nmfs.noaa.gov/pr/sars/pdf/po2013.pdf*. Refer to that document for

information on these species. A list of marine mammals in the vicinity of the action and their status are provided in Table 3. Specific information concerning these species in the vicinity of the proposed action area is provided in detail in the WSDOT's IHA application.

Potential Effects of the Specified Activity on Marine Mammals

This section includes a summary and discussion of the ways that the types of stressors associated with the specified activity (e.g., pile removal and pile driving) have been observed to impact marine mammals. This discussion may also include reactions that we consider to rise to the level of a take and those that we do not consider to rise to the level of a take (for example, with acoustics, we may include a discussion of studies that showed animals not reacting at all to sound or exhibiting barely measurable avoidance). This section is intended as a background of potential effects and does not consider either the specific manner in which this activity will be carried out or the mitigation that will be implemented, and how either of those will shape the anticipated impacts from this specific activity. The "Estimated Take by Incidental Harassment" section later in this document will include a quantitative analysis of the number of individuals that are expected to be taken by this activity. The "Negligible Impact Analysis" section will include the analysis of how this specific activity will impact marine mammals and will consider the content of this section, the "Estimated Take by Incidental Harassment" section, the "Proposed Mitigation" section, and the "Anticipated Effects on Marine Mammal Habitat" section to draw conclusions regarding the likely impacts of this activity on the reproductive success or survivorship of individuals and from that on the affected marine mammal populations or stocks.

When considering the influence of various kinds of sound on the marine environment, it is necessary to understand that different kinds of marine life are sensitive to different frequencies of sound. Based on available behavioral data, audiograms have been derived using auditory evoked potentials, anatomical modeling, and other data, Southall *et al.* (2007) designate "functional hearing groups" for marine mammals and estimate the lower and upper frequencies of functional hearing of the groups. The functional groups and the associated frequencies are indicated below (though animals are less sensitive to sounds at the outer edge of their functional range and most sensitive to sounds of frequencies within a smaller range somewhere in the middle of their functional hearing range):

- Low frequency cetaceans (13 species of mysticetes): functional hearing is estimated to occur between approximately 7 Hz and 22 kHz (however, a study by Au et al., (2006) of humpback whale songs indicate that the range may extend to at least 24 kHz);
- Mid-frequency cetaceans (32 species of dolphins, six species of larger toothed whales, and 19 species of beaked and bottlenose whales): functional hearing is estimated to occur between approximately 150 Hz and 160 kHz;
- High frequency cetaceans (eight species of true porpoises, six species of river dolphins, Kogia, the franciscana, and four species of cephalorhynchids): functional hearing is estimated to occur between approximately 200 Hz and 180 kHz; and

- Pinnipeds in Water: functional hearing is estimated to occur between approximately 75 Hz and 75 kHz, with the greatest sensitivity between approximately 700 Hz and 20 kHz.

As mentioned previously in this document, 11 marine mammal species (7 cetacean and 4 pinniped species) are likely to occur in the proposed seismic survey area. Of the 7 cetacean species likely to occur in the proposed project area, 3 are classified as low-frequency cetaceans (i.e., humpback, gray, and minke whales), 2 are classified as mid-frequency cetaceans (i.e., killer whale and Pacific white-sided dolphin), and 2 are classified as high-frequency cetaceans (i.e., harbor and Dall's porpoises) (Southall *et al*., 2007). A species' functional hearing group is a consideration when we analyze the effects of exposure to sound on marine mammals.

Marine mammals exposed to high-intensity sound repeatedly or for prolonged periods can experience hearing threshold shift (TS), which is the loss of hearing sensitivity at certain frequency ranges (Kastak et al. 1999; Schlundt et al. 2000; Finneran et al. 2002; 2005). TS can be permanent (PTS), in which case the loss of hearing sensitivity is unrecoverable, or temporary (TTS), in which case the animal's hearing threshold will recover over time (Southall et al. 2007). Since marine mammals depend on acoustic cues for vital biological functions, such as orientation, communication, finding prey, and avoiding predators, hearing impairment could result in the reduced ability of marine mammals to detect or interpret important sounds. Repeated noise exposure that causes TTS could lead to PTS.

Experiments on a bottlenose dolphin (Tursiops truncates) and beluga whale (Delphinapterus leucas) showed that exposure to a single watergun impulse at a received

level of 207 kPa (or 30 psi) peak-to-peak (p-p), which is equivalent to 228 dB (p-p) re 1 μPa, resulted in a 7 and 6 dB TTS in the beluga whale at 0.4 and 30 kHz, respectively. Thresholds returned to within 2 dB of the pre-exposure level within 4 minutes of the exposure (Finneran et al. 2002). No TTS was observed in the bottlenose dolphin. Although the source level of one hammer strike for pile driving is expected to be much lower than the single watergun impulse cited here, animals being exposed for a prolonged period to repeated hammer strikes could receive more noise exposure in terms of sound exposure level (SEL) than from the single watergun impulse (estimated at 188 dB re 1 μPa^2-s) in the aforementioned experiment (Finneran et al. 2002).

Chronic exposure to excessive, though not high-intensity, noise could cause masking at particular frequencies for marine mammals that utilize sound for vital biological functions (Clark et al. 2009). Masking is the obscuring of sounds of interest by other sounds, often at similar frequencies. Masking generally occurs when sounds in the environment are louder than, and of a similar frequency as, auditory signals an animal is trying to receive. Masking can interfere with detection of acoustic signals, such as communication calls, echolocation sounds, and environmental sounds important to marine mammals. Therefore, under certain circumstances, marine mammals whose acoustical sensors or environment are being severely masked could also be impaired.

Masking occurs at the frequency band which the animals utilize. Since noise generated from in-water vibratory pile removal and driving is mostly concentrated at low frequency ranges, it may have little effect on high-frequency echolocation sounds by odontocetes (toothed whales), which may hunt California sea lion and harbor seal. However, the lower frequency man-made noises are more likely to affect the detection of

communication calls and other potentially important natural sounds, such as surf and prey noise. The noises may also affect communication signals when those signals occur near the noise band, and thus reduce the communication space of animals (e.g., Clark et al. 2009) and cause increased stress levels (e.g., Foote et al. 2004; Holt et al. 2009).

Unlike TS, masking can potentially impact the species at community, population, or even ecosystem levels, as well as individual levels. Masking affects both senders and receivers of the signals and could have long-term chronic effects on marine mammal species and populations. Recent science suggests that low frequency ambient sound levels in the world's oceans have increased by as much as 20 dB (more than 3 times, in terms of SPL) from pre-industrial periods, and most of these increases are from distant shipping (Hildebrand 2009). All anthropogenic noise sources, such as those from vessel traffic and pile removal and driving, contribute to the elevated ambient noise levels, thus intensifying masking.

Finally, in addition to TS and masking, exposure of marine mammals to certain sounds could lead to behavioral disturbance (Richardson et al. 1995), such as: changing durations of surfacing and dives, number of blows per surfacing, or moving direction and/or speed; reduced/increased vocal activities; changing/cessation of certain behavioral activities, such as socializing or feeding; visible startle response or aggressive behavior, such as tail/fluke slapping or jaw clapping; avoidance of areas where noise sources are located; and/or flight responses (e.g., pinnipeds flushing into water from haulouts or rookeries). The onset of behavioral disturbance from anthropogenic noise depends on both external factors (characteristics of noise sources and their paths) and the receiving animals (hearing, motivation, experience, demography), and is therefore difficult to

predict (Southall et al. 2007).The activities of workers in the project area may also cause behavioral reactions by marine mammals, such as pinnipeds flushing from the jetty or pier or moving farther from the disturbance to forage. However, observations of the area show that it is unlikely that more than 10 to 20 individuals of pinnipeds would be present in the project vicinity at any one time. Therefore, even if pinnipeds were flushed from the haul-out, a stampede is very unlikely, due to the relatively low number of animals onsite. In addition, proposed mitigation and monitoring measures would minimize the startle behavior of pinnipeds and prevent the animals from flushing into the water.

The biological significance of many of these behavioral disturbances is difficult to predict, especially if the detected disturbances appear minor. However, the consequences of behavioral modification could be expected to be biologically significant if the change affects growth, survival, or reproduction. Some of these types of significant behavioral modifications include: Drastic change in diving/surfacing patterns (such as those thought to be causing beaked whale strandings due to exposure to military mid-frequency tactical sonar); habitat abandonment due to loss of desirable acoustic environment; and cessation of feeding or social interaction.

Potential Effects on Marine Mammal Habitat

The primary potential impacts to marine mammal habitat are associated with elevated sound levels produced by vibratory pile removal and pile driving in the area. However, other potential impacts to the surrounding habitat from physical disturbance are also possible.

Potential Impacts on Prey Species

With regard to fish as a prey source for cetaceans and pinnipeds, fish are known to hear and react to sounds and to use sound to communicate (Tavolga et al. 1981) and possibly avoid predators (Wilson and Dill 2002). Experiments have shown that fish can sense both the strength and direction of sound (Hawkins 1981). Primary factors determining whether a fish can sense a sound signal, and potentially react to it, are the frequency of the signal and the strength of the signal in relation to the natural background noise level.

The level of sound at which a fish will react or alter its behavior is usually well above the detection level. Fish have been found to react to sounds when the sound level increased to about 20 dB above the detection level of 120 dB (Ona 1988); however, the response threshold can depend on the time of year and the fish's physiological condition (Engas et al. 1993). In general, fish react more strongly to pulses of sound rather than non-pulse signals (such as noise from pile driving) (Blaxter et al. 1981), and a quicker alarm response is elicited when the sound signal intensity rises rapidly compared to sound rising more slowly to the same level.

During the coastal construction only a small fraction of the available habitat would be ensonified at any given time. Disturbance to fish species would be short-term and fish would return to their pre-disturbance behavior once the pile driving activity ceases. Thus, the proposed construction would have little, if any, impact on the abilities of marine mammals to feed in the area where construction work is planned.

Finally, the time of the proposed construction activity would avoid the spawning season of the ESA-listed salmonid species.

Water and Sediment Quality

Short-term turbidity is a water quality effect of most in-water work, including pile driving. WSDOT must comply with state water quality standards during these operations by limiting the extent of turbidity to the immediate project area.

Roni and Weitkamp (1996) monitored water quality parameters during a pier replacement project in Manchester, Washington. The study measured water quality before, during and after pile driving. The study found that construction activity at the site had "little or no effect on dissolved oxygen, water temperature and salinity", and turbidity (measured in nephelometric turbidity units [NTU]) at all depths nearest the construction activity was typically less than 1 NTU higher than stations farther from the project area throughout construction.

Similar results were recorded during pile removal operations at two WSDOT ferry facilities. At the Friday Harbor terminal, localized turbidity levels (from three timber pile removal events) were generally less than 0.5 NTU higher than background levels and never exceeded 1 NTU. At the Eagle Harbor maintenance facility, local turbidity levels (from removal of timber and steel piles) did not exceed 0.2 NTU above background levels. In general, turbidity associated with pile installation is localized to about a 25-foot radius around the pile (Everitt et al. 1980).

Cetaceans are not expected to be close enough to the Anacortes ferry terminal to experience turbidity, and any pinnipeds will be transiting the terminal area and could avoid localized areas of turbidity. Therefore, the impact from increased turbidity levels is expected to be discountable to marine mammals.

Passage Obstructions

Pile removal and driving operations at the Anacortes ferry terminal will not obstruct movements of marine mammals. The operations at Anacortes will occur within 152 m (500 ft) of the shoreline, leaving 3.2 km (2.0 mi) of Puget Sound for marine mammals to pass.

A construction barge will be used during the project. The barge will be anchored and/or spudded. No dynamic positioning system (DPS) will be used.

Proposed Mitigation Measures

In order to issue an incidental take authorization under section 101(a)(5)(D) of the MMPA, NMFS must set forth the permissible methods of taking pursuant to such activity, and other means of effecting the least practicable adverse impact on such species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of such species or stock for taking for certain subsistence uses.

For WSDOT's proposed Anacortes tie-up slips dolphin and wingwall replacement project, WSDOT worked with NMFS and proposed the following mitigation measures to minimize the potential impacts to marine mammals in the project vicinity. The primary purposes of these mitigation measures are to minimize sound levels from the activities, to monitor marine mammals within designated zones of influence (ZOI) corresponding to NMFS' current Level B harassment thresholds and, if marine mammals with the ZOI appear disturbed by the work activity, to initiate immediate shutdown or power down of the piling hammer, making it very unlikely potential injury or TTS to marine mammals would occur and ensuring that Level B behavioral harassment of marine mammals would be reduced to the lowest level practicable.

No Impact Pile Driving

To avoid potential injury to marine mammals, only vibratory pile hammer will be used for pile removal and pile driving.

Time Restriction

Work would occur only during daylight hours, when visual monitoring of marine mammals can be conducted. In addition, all in-water construction will be limited to the period between September 1, 2015, and February 15, 2016.

Establishment of Level B Harassment Zones of Influence

Because WSDOT will not use impact pile driving for the proposed construction work, no Level A exclusion zone exists for marine mammals. NMFS currently uses received level of 120 dB as the onset of Level B harassment from non-impulse sources such as vibratory pile driving and pile removal. However, the in-water background noise data taken within the functional hearing group of relevant species showed that at the Anacortes ferry terminal area, the median day-time cumulative distribution function (CDF) for ambient noise levels range between 123 and 133 dB_{RMS} re 1 µPa (WSDOT 2014). Therefore, the 123-dB level will be used as the onset of Level B behavioral harassment at the Anacortes project area because this level will include marine mammals in all functional hearing groups.

Before the commencement of in-water pile driving activities, WSDOT shall establish Level B behavioral harassment zones of influence (ZOIs) where received underwater sound pressure levels (SPLs) are higher than 123 dB (rms) re 1 µPa for vibratory pile driving.

The 123-dB Level B harassment ZOIs from in-water vibratory pile removal and pile driving are modeled based on in-water measurements at the WSDOT Port Townsend Ferry Terminal (Laughlin 2011) and Friday Harbor Ferry Terminal (Laughlin 2010) constructions. These modeled results are presented in Table 4 below.

Table 4. Modeled ZOI distances to Level B behavioral harassment from the pile driving and pile removal at WSDOT's Anacortes project area

Vibratory Pile Type/Method	Threshold	In-water ZOI (km)	In-air ZOI (m)
12-inch timber removal	123 dB_{RMS} re 1 µPa	1.6	----------
24-inch steel removal/driving	123 dB_{RMS} re 1 µPa	4.0	----------
30-inch steel driving	123 dB_{RMS} re 1 µPa	26	----------
36-inch steel driving	123 dB_{RMS} re 1 µPa	40	----------
All piles/in-air (harbor seals)	90 dB_{RMS} re 20 µPa	----------	30
All piles/in-air (other pinnipeds)	100 dB_{RMS} re 20 µPa	----------	10

Soft Start

WSDOT will implement "soft start" (or ramp up) to reduce potential startling behavioral responses from marine mammals. Soft start requires contractors to initiate noise from the vibratory hammer for 15 seconds at reduced energy followed by a 1-minute waiting period. The procedure will be repeated two additional times. Each day, WSDOT will use the soft-start technique at the beginning of pile driving, or if pile driving has ceased for more than one hour.

Shutdown Measures

WSDOT shall implement shutdown measures if southern resident killer whales are sighted within the vicinity of the project area and are approaching the Level B harassment zone (zone of influence, or ZOI) during in-water construction activities.

If a killer whale approaches the ZOI during pile driving or removal, and it is unknown whether it is a Southern Resident killer whale or a transient killer whale, it shall be assumed to be a Southern Resident killer whale and WSDOT shall implement the shutdown measure.

If a Southern Resident killer whale or an unidentified killer whale enters the ZOI undetected, in-water pile driving or pile removal shall be suspended until the whale exits the ZOI to avoid further level B harassment.

Further, WSDOT shall implement shutdown measures if the number of any allotted marine mammal takes reaches the limit under the IHA (if issued), if such marine mammals are sighted within the vicinity of the project area and are approaching the Level B harassment zone during in-water construction activities.

Coordination with Local Marine Mammal Research Network

Prior to the start of pile driving, the Orca Network and/or Center for Whale Research will be contacted to find out the location of the nearest marine mammal sightings. The Orca Sightings Network consists of a list of over 600 (and growing) residents, scientists, and government agency personnel in the U.S. and Canada. Sightings are called or emailed into the Orca Network and immediately distributed to other sighting networks including: the Northwest Fisheries Science Center of NOAA Fisheries, the Center for Whale Research, Cascadia Research, the Whale Museum Hotline and the British Columbia Sightings Network.

'Sightings' information collected by the Orca Network includes detection by hydrophone. The SeaSound Remote Sensing Network is a system of interconnected hydrophones installed in the marine environment of Haro Strait (west side of San Juan

Island) to study orca communication, in-water noise, bottom fish ecology and local climatic conditions. A hydrophone at the Port Townsend Marine Science Center measures average in-water sound levels and automatically detects unusual sounds. These passive acoustic devices allow researchers to hear when different marine mammals come into the region. This acoustic network, combined with the volunteer (incidental) visual sighting network allows researchers to document presence and location of various marine mammal species.

With this level of coordination in the region of activity, WSDOT will be able to get real-time information on the presence or absence of whales before starting any pile driving.

Mitigation Conclusions

NMFS has carefully evaluated the applicant's proposed mitigation measures and considered a range of other measures in the context of ensuring that NMFS prescribes the means of effecting the least practicable impact on the affected marine mammal species and stocks and their habitat. Our evaluation of potential measures included consideration of the following factors in relation to one another:

- The manner in which, and the degree to which, the successful implementation of the measure is expected to minimize adverse impacts to marine mammals
- The proven or likely efficacy of the specific measure to minimize adverse impacts as planned
- The practicability of the measure for applicant implementation.

Any mitigation measure(s) prescribed by NMFS should be able to accomplish, have a reasonable likelihood of accomplishing (based on current science), or contribute to the accomplishment of one or more of the general goals listed below:

(1) Avoidance or minimization of injury or death of marine mammals wherever possible (goals 2, 3, and 4 may contribute to this goal).

(2) A reduction in the numbers of marine mammals (total number or number at biologically important time or location) exposed to received levels of pile driving and pile removal or other activities expected to result in the take of marine mammals (this goal may contribute to 1, above, or to reducing harassment takes only).

(3) A reduction in the number of times (total number or number at biologically important time or location) individuals would be exposed to received levels of pile driving and pile removal, or other activities expected to result in the take of marine mammals (this goal may contribute to 1, above, or to reducing harassment takes only).

(4) A reduction in the intensity of exposures (either total number or number at biologically important time or location) to received levels of pile driving, or other activities expected to result in the take of marine mammals (this goal may contribute to a, above, or to reducing the severity of harassment takes only).

(5) Avoidance or minimization of adverse effects to marine mammal habitat, paying special attention to the food base, activities that block or limit passage to or from biologically important areas, permanent destruction of habitat, or temporary destruction/disturbance of habitat during a biologically important time.

(6) For monitoring directly related to mitigation – an increase in the probability of detecting marine mammals, thus allowing for more effective implementation of the mitigation.

Based on our evaluation of the applicant's proposed measures, as well as other measures considered by NMFS, NMFS has preliminarily determined that the proposed mitigation measures provide the means of effecting the least practicable impact on marine mammals species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance.

Proposed Monitoring and Reporting

In order to issue an incidental take authorization (ITA) for an activity, section 101(a)(5)(D) of the MMPA states that NMFS must set forth, "requirements pertaining to the monitoring and reporting of such taking." The MMPA implementing regulations at 50 CFR 216.104 (a)(13) indicate that requests for ITAs must include the suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected to be present in the proposed action area. WSDOT submitted a marine mammal monitoring plan as part of the IHA application. It can be found at *http://www.nmfs.noaa.gov/pr/permits/incidental.htm*. The plan may be modified or supplemented based on comments or new information received from the public during the public comment period.

Monitoring measures prescribed by NMFS should accomplish one or more of the following general goals:

(1) An increase in the probability of detecting marine mammals, both within the mitigation zone (thus allowing for more effective implementation of the mitigation) and in general to generate more data to contribute to the analyses mentioned below;

(2) An increase in our understanding of how many marine mammals are likely to be exposed to levels of pile driving that we associate with specific adverse effects, such as behavioral harassment, TTS, or PTS;

(3) An increase in our understanding of how marine mammals respond to stimuli expected to result in take and how anticipated adverse effects on individuals (in different ways and to varying degrees) may impact the population, species, or stock (specifically through effects on annual rates of recruitment or survival) through any of the following methods:

- Behavioral observations in the presence of stimuli compared to observations in the absence of stimuli (need to be able to accurately predict received level, distance from source, and other pertinent information);
- Physiological measurements in the presence of stimuli compared to observations in the absence of stimuli (need to be able to accurately predict received level, distance from source, and other pertinent information);
- Distribution and/or abundance comparisons in times or areas with concentrated stimuli versus times or areas without stimuli;

(4) An increased knowledge of the affected species; and

(5) An increase in our understanding of the effectiveness of certain mitigation and monitoring measures.

Proposed Monitoring Measures

WSDOT shall employ NMFS-approved protected species observers (PSOs) to conduct marine mammal monitoring for its Anacortes tie-up dolphins and wingwall replacement project. The PSOs will observe and collect data on marine mammals in and around the project area for 30 minutes before, during, and for 30 minutes after all pile removal and pile installation work. If a PSO observes a marine mammal within a ZOI that appears to be disturbed by the work activity, the PSO will notify the work crew to initiate shutdown measures.

Monitoring of marine mammals around the construction site shall be conducted using high-quality binoculars (e.g., Zeiss, 10 x 42 power). Due to the different sizes of ZOIs from different pile sizes, two different ZOIs and monitoring protocols corresponding to a specific pile size will be established. Specifically, during vibratory timber removal, and 24" steel vibratory pile driving and removal, one land-based PSO will monitor the area from the terminal work site, and one boat with a driver and a PSO will travel through the monitoring area. During 30/36" vibratory pile driving, one land-based PSO will monitor the area from the terminal work site, and two boats with two drivers and two PSOs will travel through the monitoring area (see Figures 2 and 3 in WSDOT's Marine Mammal Monitoring Plan).

Data collection during marine mammal monitoring will consist of a count of all marine mammals by species, a description of behavior (if possible), location, direction of movement, type of construction that is occurring, time that pile replacement work begins and ends, any acoustic or visual disturbance, and time of the observation. Environmental conditions such as weather, visibility, temperature, tide level, current, and sea state would also be recorded.

Proposed Reporting Measures

WSDOT would be required to submit a final monitoring report within 90 days after completion of the construction work or the expiration of the IHA (if issued), whichever comes earlier. This report would detail the monitoring protocol, summarize the data recorded during monitoring, and estimate the number of marine mammals that may have been harassed. NMFS would have an opportunity to provide comments on the report, and if NMFS has comments, WSDOT would address the comments and submit a final report to NMFS within 30 days.

In addition, NMFS would require WSDOT to notify NMFS' Office of Protected Resources and NMFS' Stranding Network within 48 hours of sighting an injured or dead marine mammal in the vicinity of the construction site. WSDOT shall provide NMFS with the species or description of the animal(s), the condition of the animal(s) (including carcass condition, if the animal is dead), location, time of first discovery, observed behaviors (if alive), and photo or video (if available).

In the event that WSDOT finds an injured or dead marine mammal that is not in the vicinity of the construction area, WSDOT would report the same information as listed above to NMFS as soon as operationally feasible.

Estimated Take by Incidental Harassment

Except with respect to certain activities not pertinent here, the MMPA defines "harassment" as: any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild [Level A harassment]; or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by

causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering [Level B harassment].

As discussed above, in-water pile removal and pile driving (vibratory and impact) generate loud noises that could potentially harass marine mammals in the vicinity of WSDOT's proposed Anacortes Ferry Terminal tie-up slip dolphin and wingwall replacement project.

As mentioned earlier in this document, currently NMFS uses 120 dB re 1 µPa and 160 dB re 1 µPa at the received levels for the onset of Level B harassment from non-impulse (vibratory pile driving and removal) and impulse sources (impact pile driving) underwater, respectively. Table 3 summarizes the current NMFS marine mammal take criteria.

Table 3. Current Acoustic Exposure Criteria for Non-explosive Sound Underwater

Criterion	**Criterion Definition**	**Threshold**
Level A Harassment (Injury)	Permanent Threshold Shift (PTS) (Any level above that which is known to cause TTS)	180 dB re 1 µPa (cetaceans) 190 dB re 1 µPa (pinnipeds) root mean square (rms)
Level B Harassment	Behavioral Disruption (for impulse noises)	160 dB re 1 µPa (rms)
Level B Harassment	Behavioral Disruption (for non-impulse noise)	120 dB re 1 µPa (rms)

As explained above, ZOIs will be established that encompass the areas where received underwater sound pressure levels (SPLs) exceed the applicable thresholds for Level B harassment. In the case of WSDOT's proposed Anacortes construction project, the Level B harassment ZOI for non-impulse noise sources will be at the received level at 123 dB, which is the median ambient noise level for the high-frequency cetacean. There will not be a zone for Level A harassment in this case, because source levels from

vibratory hammer do not exceed the threshold for Level A harassment, and no impact hammer will be used in the proposed project.

Sound Levels from Proposed Construction Activity

As mentioned earlier, the 123-dB Level B harassment ZOIs are modeled based on in-water measurements at the WSDOT Port Townsend Ferry Terminal (Laughlin 2011) and Friday Harbor Ferry Terminal (Laughlin 2010) constructions (Table 4). Incidental take is calculated for each species by estimating the likelihood of a marine mammal being present within a ZOI during active pile removal/driving. Expected marine mammal presence is determined by past observations and general abundance near the Anacortes ferry terminal during the construction window. Ideally, potential take is estimated by multiplying the area of the ZOI by the local animal density. This provides an estimate of the number of animals that might occupy the ZOI at any given moment. However, there are no density estimates for any Puget Sound population of marine mammal.

As a result, the take requests were estimated using local marine mammal data sets, and information from state and federal agencies. All haulout and observation data available are summarized in Section 3 of WSDOT's IHA application. Project duration is presented in Section 2 of WSDOT's IHA application.

The calculation for marine mammal exposures is estimated by:

Exposure estimate = N (number of animals in the area) * Number of days of pile removal/driving activity

Estimates include Level B acoustical harassment during vibratory pile removal and driving. All estimates are conservative, as pile removal/driving will not be continuous during the work day. Using this approach, a summary of estimated takes of

marine mammals incidental to WSDOT's Anacortes Ferry Terminal tip-up dolphins and wingwall replacement work are provided in Table 5.

Table 5. Estimated numbers of marine mammals that may be exposed to received pile removal levels above 123 dB re 1 µPa (rms)

Species	Estimated marine mammal takes	Abundance	Percentage
Pacific harbor seal	900	14,612	6.0%
California sea lion	180	296,750	0.06%
Steller sea lion	360	52,847	0.7%
Northern elephant seal	72	124,000	0.06%
Harbor porpoise	612	10,682	5.7%
Dall's porpoise	108	42,000	0.3%
Killer whale, transient	70	354	20%
Killer whale, Southern Resident	4	81	5.0%
Pacific white-sided dolphin	360	25,233	1.4%
Gray whale	36	18,017	0.2%
Humpback whale	30	2,043	1.5%
Minke whale	10	202 - 600	1.7 - 5%

Analysis and Preliminary Determinations

Negligible Impact

Negligible impact is "an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival" (50 CFR 216.103). A negligible impact finding is based on the lack of likely adverse effects on annual rates of recruitment or survival (i.e., population-level effects). An estimate of the number of Level B harassment takes, alone, is not enough information on which to base an impact determination. In addition to considering estimates of the number of marine mammals that might be "taken" through behavioral harassment, NMFS must consider other factors, such as the likely nature of any responses (their intensity, duration, etc.), the context of any responses (critical reproductive time or location, migration, etc.), as well as the

number and nature of estimated Level A harassment takes, the number of estimated mortalities, and effects on habitat.

WSDOT's proposed Anacortes Ferry Terminal tie-up dolphins and wingwall replacement project would involve vibratory pile removal and pile driving activities. Elevated underwater noises are expected to be generated as a result of these activities; however, these noises are expected to result in no mortality or Level A harassment and limited Level B harassment of marine mammals. WSDOT would not use impact hammer for pile driving, thus eliminating the potential for injury (including PTS) and TTS from noise impact. For vibratory pile removal and pile driving, noise levels are not expected to reach the level that may cause TTS, injury (including PTS), or mortality to marine mammals. Therefore, NMFS does not expect that any animals would experience Level A harassment (including injury or PTS) or Level B harassment in the form of TTS from being exposed to in-water pile removal and pile driving associated with WSDOT's construction project.

Additionally, the sum of noise from WSDOT's proposed Anacortes Ferry Terminal tie-up dolphins and wingwall replacement construction activities is confined to a limited area by surrounding landmasses; therefore, the noise generated is not expected to contribute to increased ocean ambient noise. In addition, due to shallow water depths in the project area, underwater sound propagation of low-frequency sound (which is the major noise source from pile driving) is expected to be poor.

In addition, WSDOT's proposed activities are localized and of short duration. The entire project area is limited to WSDOT's Anacortes Ferry Terminal construction work. The entire project would involve the removal of 272 existing piles and installation

of 81 piles. The duration for the construction would involve 68 hours in 9 days for pile removal and 27 hours in 27 days for pile installation. These low-intensity, localized, and short-term noise exposures may cause brief startle reactions or short-term behavioral modification by the animals. These reactions and behavioral changes are expected to subside quickly when the exposures cease. Moreover, the proposed mitigation and monitoring measures are expected to reduce potential exposures and behavioral modifications even further. Additionally, no important feeding and/or reproductive areas for marine mammals are known to be near the proposed action area. Therefore, the take resulting from the proposed Anacortes Ferry Terminal tie-up dolphins and wingwall replacement work is not reasonably expected to, and is not reasonably likely to, adversely affect the marine mammal species or stocks through effects on annual rates of recruitment or survival.

The proposed project area is not a prime habitat for marine mammals, nor is it considered an area frequented by marine mammals. Therefore, behavioral disturbances that could result from anthropogenic noise associated with WSDOT's construction activities are expected to affect only a small number of marine mammals on an infrequent and limited basis.

The project also is not expected to have significant adverse effects on affected marine mammals' habitat, as analyzed in detail in the "Anticipated Effects on Marine Mammal Habitat" section. The project activities would not modify existing marine mammal habitat. The activities may cause some fish to leave the area of disturbance, thus temporarily impacting marine mammals' foraging opportunities in a limited portion of the foraging range; but, because of the short duration of the activities and the relatively

small area of the habitat that may be affected, the impacts to marine mammal habitat are not expected to cause significant or long-term negative consequences.

Based on the analysis contained herein of the likely effects of the specified activity on marine mammals and their habitat, and taking into consideration the implementation of the proposed monitoring and mitigation measures, NMFS preliminarily finds that the total marine mammal take from WSDOT's Anacortes Ferry Terminal tie-up dolphins and wingwall replacement project will have a negligible impact on the affected marine mammal species or stocks.

Small Number

Based on analyses provided above, it is estimated that approximately 900 harbor seals, 180 California sea lions, 360 Steller sea lions, 72 northern elephant seals, 612 harbor porpoises, 108 Dall's porpoises, 70 transient killer whales, 4 Southern Resident killer whales, 360 Pacific white-sided dolphins, 36 gray whales, 30 humpback whales, and 10 minke whales could be exposed to received noise levels that could cause Level B behavioral harassment from the proposed construction work at the Anacortes Ferry Terminal in Washington State. These numbers represent approximately 0.06% to 20% of the populations of these species that could be affected by Level B behavioral harassment, respectively (see Table 5 above), which are small percentages relative to the total populations of the affected species or stocks.

Based on the analysis contained herein of the likely effects of the specified activity on marine mammals and their habitat, and taking into consideration the implementation of the mitigation and monitoring measures, which are expected to reduce the number of marine mammals potentially affected by the proposed action, NMFS

preliminarily finds that small numbers of marine mammals will be taken relative to the populations of the affected species or stocks.

Impact on Availability of Affected Species for Taking for Subsistence Uses

There are no subsistence uses of marine mammals in the proposed project area; and, thus, no subsistence uses impacted by this action. Therefore, NMFS has determined that the total taking of affected species or stocks would not have an unmitigable adverse impact on the availability of such species or stocks for taking for subsistence purposes.

Endangered Species Act (ESA)

The humpback whale and the Southern Resident stock of killer whale are the only marine mammal species currently listed under the ESA that could occur in the vicinity of WSDOT's proposed construction projects. NMFS' Permits and Conservation Division has initiated consultation with NMFS' Protected Resources Division under section 7 of the ESA on the issuance of an IHA to WSDOT under section 101(a)(5)(D) of the MMPA for this activity. Consultation will be concluded prior to a determination on the issuance of an IHA.

National Environmental Policy Act (NEPA)

NMFS prepared a draft Environmental Assessment (EA) for the proposed issuance of an IHA, pursuant to NEPA, to determine whether or not this proposed activity may have a significant effect on the human environment. This analysis will be completed prior to the issuance or denial of this proposed IHA.

Proposed Authorization

As a result of these preliminary determinations, NMFS proposes to issue an IHA to WSDOT for conducting the Anacortes Ferry Terminal tie-up dolphins and wingwall

replacement project, provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated. The proposed IHA language is provided next.

1. This Authorization is valid from September 1, 2015, through August 31, 2016.

2. This Authorization is valid only for activities associated in-water construction work at the Anacortes Ferry Terminal tie-up dolphins and wingwall replacement project in the State of Washington.

3. (a) The species authorized for incidental harassment takings, Level B harassment only, are: Pacific harbor seal (Phoca vitulina richardsi), California sea lion (Zalophus californianus), Steller sea lion (Eumetopias jubatus), northern elephant seals (Mirounga angustirostris), transient and Southern Resident killer whales (Orcinus orca), Pacific white-sided dolphin (Lagenorhynchus obliquidens), gray whale (Eschrichtius robustus), humpback whale (Megaptera novaeangliae), harbor porpoise (Phocoena phocoena), and Dall's porpoise (Phocoena dali).

(b) The authorization for taking by harassment is limited to the following acoustic sources and from the following activities:

- Vibratory pile driving;
- Vibratory pile removal; and
- Work associated with above piling activities.

(c) The taking of any marine mammal in a manner prohibited under this Authorization must be reported within 24 hours of the taking to the West Coast Administrator (206-526-6150), National Marine Fisheries Service (NMFS) and the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, at (301) 427-8401, or her designee (301-427-8418).

4. The holder of this Authorization must notify the Chief of the Permits and Conservation Division, Office of Protected Resources, at least 48 hours prior to the start of activities identified in 3(b) (unless constrained by the date of issuance of this Authorization in which case notification shall be made as soon as possible).

5. Prohibitions

(a) The taking, by incidental harassment only, is limited to the species listed under condition 3(a) above and by the numbers listed in Table 5. The taking by Level A harassment, injury or death of these species or the taking by harassment, injury or death of any other species of marine mammal is prohibited and may result in the modification, suspension, or revocation of this Authorization.

(b) The taking of any marine mammal is prohibited whenever the required protected species observers (PSOs), required by condition 7(a), are not present in conformance with condition 7(a) of this Authorization.

6. Mitigation

(a) Time Restriction

In-water construction work shall occur only during daylight hours, when visual monitoring of marine mammals can be conducted.

(b) Establishment of Level B Harassment Zones of Influence

Before the commencement of in-water pile driving activities, WSDOT shall establish Level B behavioral harassment zones of influence (ZOIs) where received underwater sound pressure levels (SPLs) are higher than 123 dB (rms) re 1 μPa. The modeled isopleths for ZOIs are listed in Table 4.

(c) Monitoring of marine mammals shall take place starting 30 minutes before pile driving begins until 30 minutes after pile driving ends.

(d) Soft Start

(i) When there has been downtime of 30 minutes or more without pile driving, the contractor will initiate the driving with ramp-up procedures described below.

(ii) Soft start requires contractors to initiate noise from the vibratory hammer for 15 seconds at reduced energy followed by a 1-minute waiting period. The procedure will be repeated two additional times. Each day, WSDOT will use the soft-start technique at the beginning of pile driving, or if pile driving has ceased for more than one hour.

(e) Shutdown Measures

(i) WSDOT shall implement shutdown measures if southern resident killer whales (SRKWs) are sighted within the vicinity of the project area and are approaching the Level B harassment zone (zone of influence, or ZOI) during in-water construction activities.

(ii) If a killer whale approaches the ZOI during pile driving or removal, and it is unknown whether it is a SRKW or a transient killer whale, it shall be assumed to be a SRKW and WSDOT shall implement the shutdown measure identified in 6(e)(i).

(iii) If a SRKW enters the ZOI undetected, in-water pile driving or pile removal shall be suspended until the SRKW exits the ZOI to avoid further level B harassment.

(iv) WSDOT shall implement shutdown measures if the number of any allotted marine mammal takes reaches the limit under the IHA, if such marine mammals are sighted within the vicinity of the project area and are approaching the Level B harassment zone during pile removal activities.

(v) WSDOT shall implement shutdown measures if marine mammals with the ZOI appear disturbed by the work activity.

(f) Coordination with Local Marine Mammal Research Network

Prior to the start of pile driving, WSDOT will contact the Orca Network and/or Center for Whale Research to get real-time information on the presence or absence of whales before starting any pile driving.

7. Monitoring:

(a) Protected Species Observers

WSDOT shall employ NMFS-approved PSOs to conduct marine mammal monitoring for its construction project.

(i) Visual acuity in both eyes (correction is permissible) sufficient for discernment of moving targets at the water's surface with ability to estimate target size and distance. Use of binoculars will be required to correctly identify the target.

(ii) Experience or training in the field identification of marine mammals (cetaceans and pinnipeds).

(iii) Sufficient training, orientation or experience with the construction operation to provide for personal safety during observations.

(iv) Ability to communicate orally, by radio or in person, with project personnel to provide real time information on marine mammals observed in the area as necessary.

(v) Experience and ability to conduct field observations and collect data according to assigned protocols (this may include academic experience).

(vi) Writing skills sufficient to prepare a report of observations that would include such information as the number and type of marine mammals observed; the

behavior of marine mammals in the project area during construction, dates and times when observations were conducted; dates and times when in-water construction activities were conducted; and dates and times when marine mammals were present at or within the defined ZOI.

(b) Monitoring Protocols: PSOs shall be present on site at all times during pile removal and driving.

(i) A range finder or hand-held global positioning system device will be used to ensure that the 123 dB_{rms} re 1 μPa Level B behavioral harassment ZOI is monitored.

(ii) A 30-minute pre-construction marine mammal monitoring will be required before the first pile driving or pile removal of the day. A 30-minute post-construction marine mammal monitoring will be required after the last pile driving or pile removal of the day. If the constructors take a break between subsequent pile driving or pile removal for more than 30 minutes, then additional pre-construction marine mammal monitoring will be required before the next start-up of pile driving or pile removal.

(iii) Marine mammal visual monitoring will be conducted for different ZOIs based on different sizes of piles being driven or removed.

(A) For vibratory timber removal, and 24" steel vibratory pile driving and removal, one land-based PSO will monitor the area from the terminal work site, and one boat with a driver and a PSO will travel through the monitoring area.

(B) For 30"/36" vibratory pile driving, one land-based PSO will monitor the area from the terminal work site, and two boats with two drivers and two PSOs will travel through the monitoring area.

(iv) If marine mammals are observed, the following information will be documented:

(A) Species of observed marine mammals;

(B) Number of observed marine mammal individuals;

(C) Behavioral of observed marine mammals;

(D) Location within the ZOI; and

(E) Animals' reaction (if any) to pile-driving activities

8. Reporting:

(a) WSDOT shall provide NMFS with a draft monitoring report within 90 days of the conclusion of the construction work or within 90 days of the expiration of the IHA, whichever comes first. This report shall detail the monitoring protocol, summarize the data recorded during monitoring, and estimate the number of marine mammals that may have been harassed.

(b) If comments are received from the NMFS West Coast Regional Administrator or NMFS Office of Protected Resources on the draft report, a final report shall be submitted to NMFS within 30 days thereafter. If no comments are received from NMFS, the draft report will be considered to be the final report.

(c) In the unanticipated event that the construction activities clearly cause the take of a marine mammal in a manner prohibited by this Authorization (if issued), such as an injury, serious injury, or mortality, WSDOT shall immediately cease all operations and immediately report the incident to the Chief, Permits and Conservation Division, Office of Protected Resources, NMFS, and the West Coast Regional Stranding Coordinators. The report must include the following information:

(i) Time, date, and location (latitude/longitude) of the incident;

(ii) Description of the incident;

(iii) Status of all sound source use in the 24 hours preceding the incident;

(iv) Environmental conditions (e.g., wind speed and direction, sea state, cloud cover, visibility, and water depth);

(v) Description of marine mammal observations in the 24 hours preceding the incident;

(vi) Species identification or description of the animal(s) involved;

(vii) The fate of the animal(s); and

(viii) Photographs or video footage of the animal (if equipment is available).

Activities shall not resume until NMFS is able to review the circumstances of the prohibited take. NMFS shall work with WSDOT to determine what is necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. WSDOT may not resume their activities until notified by NMFS via letter, email, or telephone.

(E) In the event that WSDOT discovers an injured or dead marine mammal, and the lead PSO determines that the cause of the injury or death is unknown and the death is relatively recent (i.e., in less than a moderate state of decomposition as described in the next paragraph), WSDOT will immediately report the incident to the Chief, Permits and Conservation Division, Office of Protected Resources, NMFS, and the West Coast Regional Stranding Coordinators. The report must include the same information identified above. Activities may continue while NMFS reviews the circumstances of the

incident. NMFS will work with WSDOT to determine whether modifications in the activities are appropriate.

(F) In the event that WSDOT discovers an injured or dead marine mammal, and the lead PSO determines that the injury or death is not associated with or related to the activities authorized in the IHA (e.g., previously wounded animal, carcass with moderate to advanced decomposition, or scavenger damage), WSDOT shall report the incident to the Chief, Permits and Conservation Division, Office of Protected Resources, NMFS, and the West Coast Regional Stranding Coordinators, within 24 hours of the discovery. WSDOT shall provide photographs or video footage (if available) or other documentation of the stranded animal sighting to NMFS and the Marine Mammal Stranding Network. WSDOT can continue its operations under such a case.

9. This Authorization may be modified, suspended or withdrawn if the holder fails to abide by the conditions prescribed herein or if the authorized taking is having more than a negligible impact on the species or stock of affected marine mammals, or if there is an unmitigable adverse impact on the availability of such species or stocks for subsistence uses.

10. A copy of this Authorization and the Incidental Take Statement must be in the possession of each contractor who performs the construction work at the Anacortes Ferry Terminals.

11. WSDOT is required to comply with the Terms and Conditions of the Incidental Take Statement corresponding to NMFS' Biological Opinion.

Dated: February 25, 2015.

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Donna S. Wieting,
Director,
Office of Protected Resources,
National Marine Fisheries Service.

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